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 AI Guide



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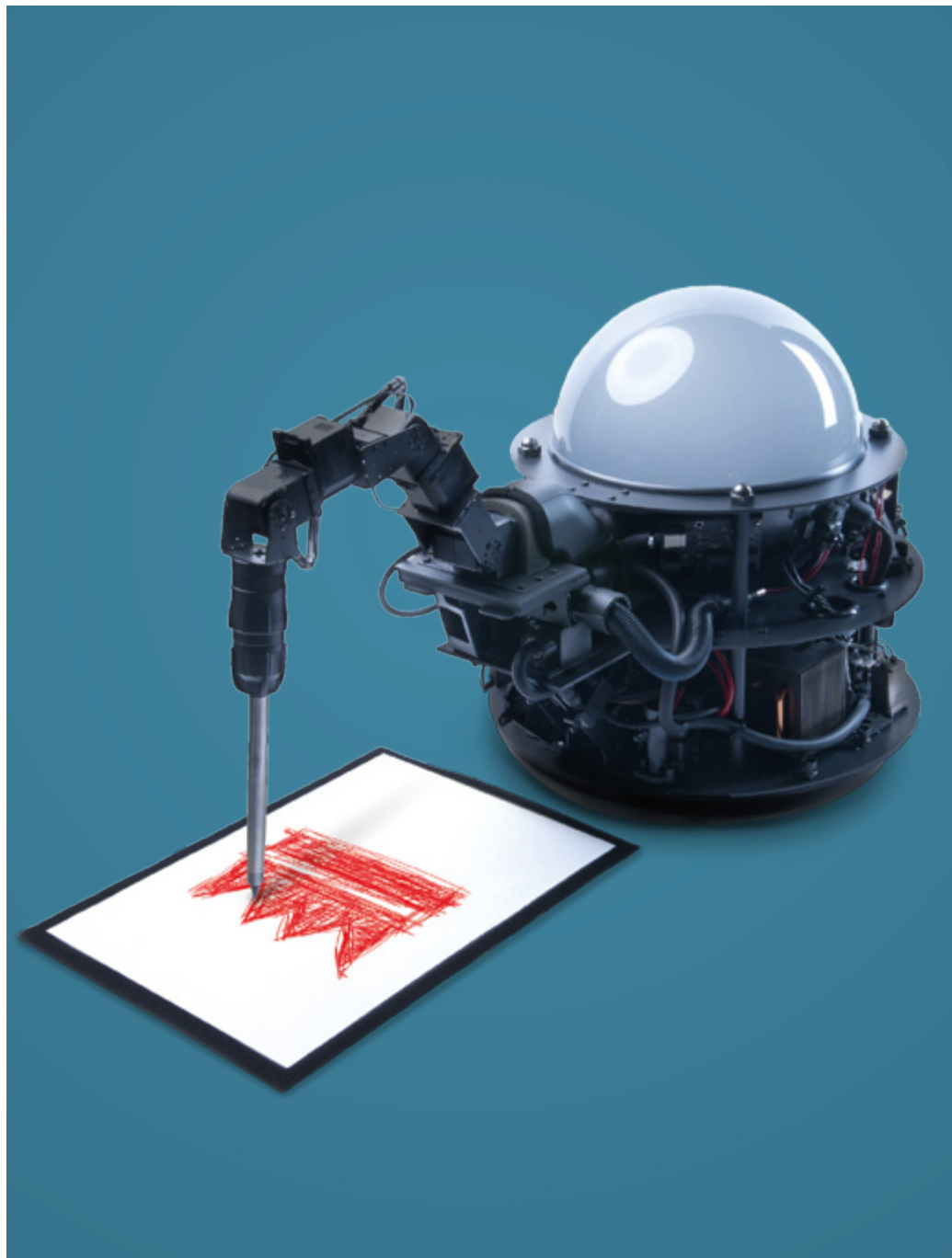
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Can AI live up to the hype? Indeed, is it already living up to it? That's what we attempt to answer in this special issue of The Drum dedicated to all things artificial intelligence.

Over the coming pages we'll hear from IBM Watson, from Made.com, from Branded Entertainment Network, Shutterstock, GSK, Ogilvy and a whole lot more.

We'll find out which sectors and verticals are set to benefit most from the technology, from healthcare to retail to finance.

We'll consider the big industry challenges that AI will help tackle, from digital fraud to making sense of big data to speed, accuracy etc.

And we'll ask whether AI could ever come up with a brilliant marketing concept. Will the next John Lewis ad be conceived by AI, for example?

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CAN AI LIVE UP TO THE HYPE?

We ask a cross-section of the industry whether AI really deserves the title of ‘the next big thing’. And, if it is to live up to all the hype, when and where will we see this?



Ricky Ray Butler,
chief executive officer,
Branded Entertainment Network

For marketers, AI is already living up to the hype. The latest deep learning algorithms have unlocked AI's ability to predict the performance of marketing campaigns - something that has never been possible before. The key to this advancement is deep learning's ability to analyze unstructured data, which includes the video and audio data contained in the millions of hours of entertainment people watch every day. Using deep learning, marketers are now able to optimize their marketing spend before even one dollar is invested, selecting the shows, channels or creators to work with to deliver the best performance for their brand.

AI's advances aren't just changing how marketers approach entertainment, they are changing how entertainment is created. From Netflix switching completely to an AI-driven recommendation engine to content creators using AI to identify the storylines that will drive the most views or subscriptions, AI and deep learning have already changed the content we're shown and how that content is discovered. AI's ability to learn like a human and scale like a machine is helping those who make content have a more sophisticated understanding of what will keep audiences engaged and continuing to tune in.



Michael Olaye,
chief executive officer,
Dare

AI is growing at a rapid pace and will continue to do so for the foreseeable future. Its use in product and service development will continue to improve, but there's still a way to go before it offers tangible, instantly marketable benefits that consumers can understand.

Let's face it, the average consumer doesn't recognize how AI will improve their lives. And one of the main barriers to AI products and services really taking off is the fear and mistrust evoked by the sorts of apocalyptic scenarios Hollywood serves up. A lot of the time the media reports on machine learning in a negative way - our voice assistants are spying on us, big data has tampered with our elections, my fiancée left me for Alexa, etc. The industry has to do more to champion AI's commercially positive traits, otherwise it's never going to be widely accepted as anything other than a gimmick.



Ashish Sidhra,
managing partner,
Artefact

AI tech has existed in digital marketing for some time now - since the late 90s, search engines have facilitated discovery in the wild west of the online world. However, what's changed in the last few years is the democratization of AI, thanks to services like Amazon Echo and Google Cloud. They've made this advanced technology available to large and small companies and also opened the floor to individuals eager to innovate in this area.

While AI's current level of maturity enables a wide range of uses with real return on investment (services like predictive analytics, content personalization, machine learning based segmentation and so on), our minds run away with us. As humans, we speculate and romanticize. We overestimate what AI can actually achieve (full conversational voice bots, thought prediction etc). It's these unrealistic expectations that fuel the AI 'hype'. So, to that end, it won't live up to it - at least, not in the short-term.



Norio Fujikawa,
executive creative director,
Astro Studios

Let's start with the simple, black and white argument about what an artificial intelligent future may look like. On one hand there is the optimistic vision - AI will enable us to perform tasks and achieve goals that are far beyond our capabilities as human beings. Currently, we already use computers to perform mundane processing tasks, but they will eventually perform high level cognitive tasks that exceed the limitations of our brains. Then there's the opposite vision - AI will take over the world leaving humanity in its wake. If computers do exceed what we can do as humans, what will stop them from eliminating the human race? It's an extreme scenario, but a fear that has prompted the likes of Elon Musk, Bill Gates and the late Stephen Hawking to speak publicly about the risks of

artificial intelligence.

I cannot say if a harmonious human and AI world will win the day or whether an apocalyptic destructive AI accelerating the end of human civilization future lies ahead (many of the greatest minds in the field of AI don't even agree). However, I do think that an AI future is inevitable as we are already seeing the integration of 'narrow' AI technology in current products and services, including everything from online searches to facial recognition on our phones and autonomous cars with multiple applications of AI. They are not the self-aware super intelligent AI we so often see in movies, but they are the first steps toward achieving a smarter future.

Yes I think AI will live up to some version of the hype. But the next question is, when and where?



Tania Philip,
vice-president of product,
Shutterstock

The underlying technology that will enable AI has tremendous potential to affect every single industry, including agriculture, aerospace, healthcare, travel and finance. The groundwork technology we are seeing today through learning algorithms, machine learning, computer vision and cognitive computing is helping to lay a strong foundation that will enable multiple versions of artificial intelligence. Many people have varying opinions on what AI will look like in the future: everything from a robot that looks and thinks like a human to predictive technology that helps us make smarter decisions in important areas such as healthcare and so much more.



Wayne Deakin,
executive creative direct EMEA,
Huge

The reality is that almost half of current professions will be automated in the next 15 years. AI will take over tedious, mind-numbing, dehumanizing or dangerous tasks that few humans enjoy. This will be disruptive to some jobs more than others. But no algorithm can really replicate true human creativity and our innate nature. I am an advocate of the power of machines to help us unlock more of our potential for human creativity and to liberate from the mundane. So, in my book, the hype that AI will instigate the next industrial revolution is well placed.

AI will help free us from old methods and practices of problem solving that computers are far better at anyway and allow us to create, explore, nurture and reimagine new ways of doing things we didn't think were possible. The development of machine intelligence will be a good thing for humankind in the long run, but it also means some tension. We need to start to shift the basics of the next generation to an education model that is future ready and not rooted in old school, irrelevant practices. The same goes for industry, as the slow to adapt will be unable to keep up. Ultimately, it means losing our fear and instead embracing the creative tools that AI can offer business and society. AI is too often seen as akin to the discovery of fire and we all know what happened once humans embraced that as a game changing tool.



Florian Gramshammer,
managing director,
Impact

AI is surrounded by hype right now. In the martech and adtech world, it's popularly regarded as the next big thing. However, AI and, specifically, machine learning have been around for decades - they've been applied to trading, sports and robotics to predict outcomes and make decisions about what to do next. The marketing field has extensive opportunity to reap just as much reward from the strategic use of AI.

If we look at Amazon, for example, we can see an impressive blueprint for how AI has strengthened its shopping business, and yet many companies simply aren't harnessing the true potential of what AI can deliver.

The parameters we use to define AI are still relatively new, and this is affecting the speed at which it is being used at scale within the digital marketing industry.

For agencies, creative could and should be executed with AI in mind. This will improve the production process through to delivery and increase the impact throughout each stage. However, advertisers and their agencies know more about their brand than an algorithm. So while AI can find patterns that humans can't, the human element within the creative process needs to remain human-led.

AI for the performance marketing industry takes the manual work out of the process. Appropriate application of AI makes trading faster and utilizes data more efficiently. Yet while we know that automation is successful, it can potentially create more questions than it solves. AI is still too often seen as a traditional, single algorithm that is produced using clever mathematics and logic, enabling it to simulate intelligent behaviors and give you an output.



Catherine Williams,
chief data and marketplace officer,
AppNexus

AI is moving forward incrementally as a capability, but despite the hype it takes time for data scientists to put datasets through all the scientific processes that give it real value for marketers. I don't foresee a dramatic moment where we wake up one day and find that every task is automated by machines, but bit by bit we will see machine learning connecting data points to drive improved forecasting, transactions and outcomes for brands.

Rather than focusing on the technology and jargon behind AI, which is what the hype tends to highlight, marketers should be focused on outcomes. They should be proactively asking their technology providers questions about how and where machine learning is improving their strategy. They should also be cognizant of the quality and provenance of their data - poor quality data will produce poor results for marketers, regardless of the algorithm or method of automation.

WHAT'S THE BEST USE OF AI YOU'VE SEEN?

From robotics to predictive analytics to natural language processing, we hear about the most impressive uses of AI so far.



Michael Olaye,
chief executive officer,
Dare

The most useful AI products lie in robotics, image and speech recognition, natural language processing and translation – there's potential for real growth in these areas. In terms of specific products, I think AI services which are able to offer cross-channel understanding, like Microsoft Dynamics and IBM Watson, are leaders in this space by a mile.



Ashish Sidhra,
managing partner,
Artefact

Artefact's French office pulled off a massively impressive job a few years back helping Monoprix, the French retail leader, roll out a multi-channel voice 'shopping list assistant' that, in real time, recommends additions to your basket based on your previous purchases and behavior.



Ricky Ray Butler,
chief executive officer,
Branded Entertainment Network

I'm most excited about the strength of AI's predictive analytics. Using our own deep learning algorithms as an example, we're already seeing incredible results that have delivered increased sales conversion rates nearly 10-fold and increased click-through rates by over 100% for our clients' influencer marketing campaigns. Algorithms that are predictive in nature provide tremendous value for brands, and when those algorithms can be customized with a brand's own historic and ongoing data there are significant opportunities for optimization.

There's still tons of value to be derived from deep learning algorithms. Companies have only scratched the surface in applying deep learning to influencer marketing; the massive world of television and film content is on the horizon.



Norio Fujikawa,
executive creative director,
Astro Studios

The best use of any technology is when you don't realize you are using it. As designers at Astro, we are often the human advocates in the development process. We are on a mission to improve the human experience. Technology, no matter how innovative, must not get in the way or burden that experience. Many of the products and services we use every day are probably the best examples of AI and we don't even know it because they are essentially invisible and seamless (such as Google search, Facebook, smartphones, home assistants).

AI has shown the potential to change the way we interact with technology and products. Whether the interaction model is to be more human-like using human voices or an unexpected new paradigm like AR or machine learning, it is exciting to explore the possibilities as a designer. Machine learning, computer vision, natural language processing, pattern

recognition and robotics are just a few subsets of AI that we see in many of the projects we are involved in. The accelerated pace of advances in AI, along with the many benefits, make the implementation of AI in varying degrees in all things 'tech' inevitable.

There is concern that AI can be used to trick or alter what we perceive as real or true, such as with 'deepfakes' which is the result of a machine-learning based human image synthesis technique for doctoring videos. My hope is that technologists and developers using AI work keep in mind the end human benefit and experience, just as we do as designers.



Wayne Deakin,
executive creative direct EMEA,
Huge

I've seen some great uses in so many different sectors or purposes that it's hard to select one. Self-driving cars, music services, predictive searches, financial experiences and protection, voice or even the machine power of Amazon or Netflix to challenge their sectors. And while it might not be as sexy as some more consumer-centric examples, one that I admire is Atomwise which is a combination of AI and deep learning that is facilitating a new way of drug discovery, rapidly speeding up the work of chemists. The potential is revolutionary.



Florian Gramshammer,
managing director,
Impact

The goal of AI is to replicate incredibly difficult and only partially understood processes using machines. The best example of AI currently is voice assistant technology applied to Google Home and Amazon Echo. They both narrow expert tasks and make informed decisions much more effectively while steering innovation on a massive scale.

There are other strong examples of how AI is used effectively. Firstly, natural language processing which bridges the gap between human communication and computer ability to interpret and manipulate human language. The second standout use of AI is the use of virtual agents (including chatbots and digital virtual assistants). These are computer generated virtual characters that act as online customer service representatives. They are able to carry intelligent, responsive conversation with human users and perform sufficient nonverbal behavior.

The third best use of AI is machine learning. This is the process of feeding a computer raw data and information so that it is able to learn and behave like humans do and autonomously improve that learning over time. If we look at fraud alone, artificial intelligence is right at the heart of how our fraud prevention tool, Forensiq, is built. From the algorithms we use to analyze the behavior and track new patterns to pinpoint fraudulent activity, we are able to use AI to deliver a comprehensive technology to identify fraud.



Tania Philip,
vice-president of product,
Shutterstock

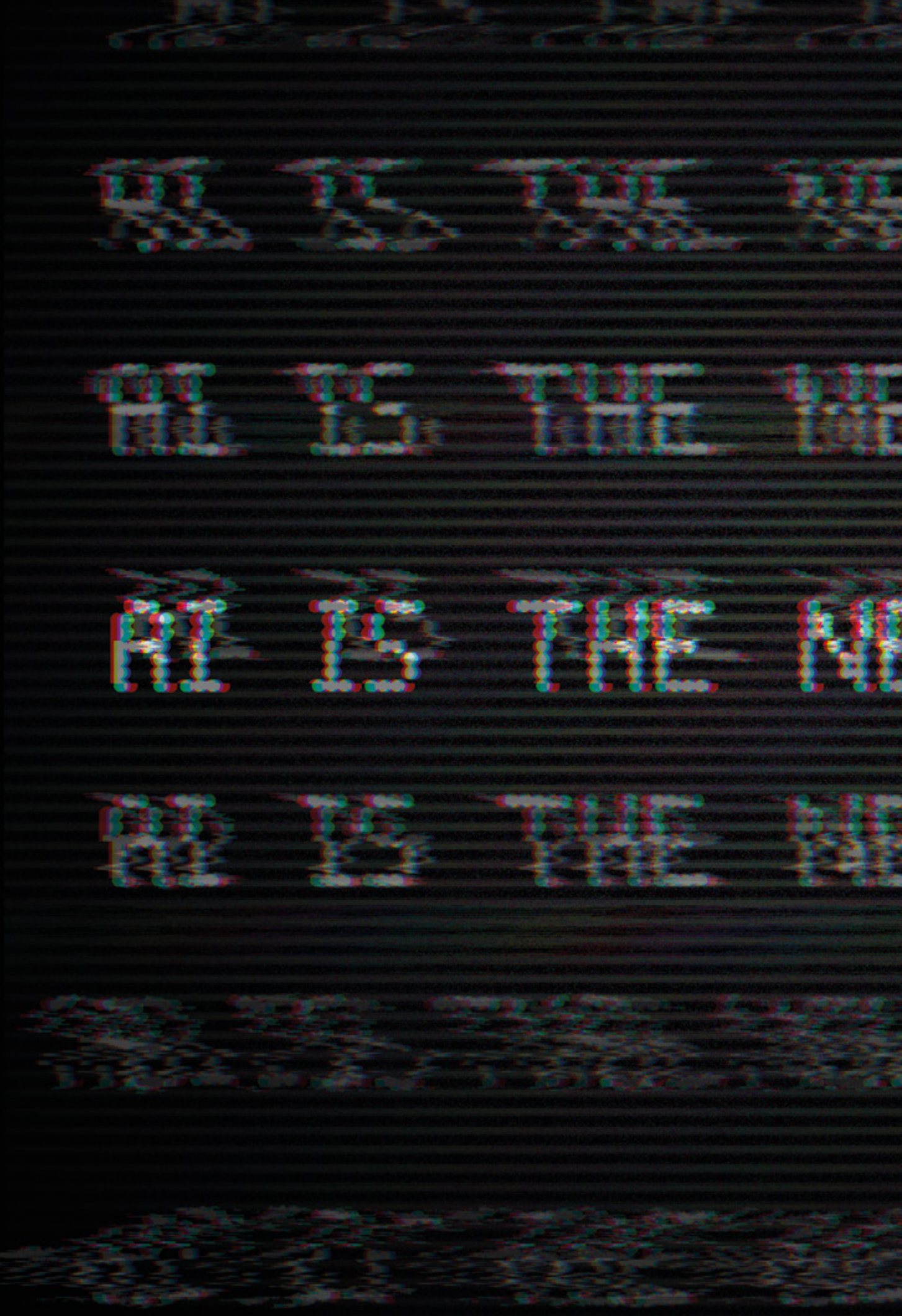
Google has done a tremendous job of subtly embedding computer vision and AI into Google Photos to create a delightful experience. If a customer uploads their entire photo library over the years, Google's AI/Computer Vision technology is smart enough to know if one image that contains your dog at one month old is the same dog 18 years later in another image. And that allows you to search for all images with that specific dog across the years across content that you may have forgotten that you have. Pretty cool stuff!

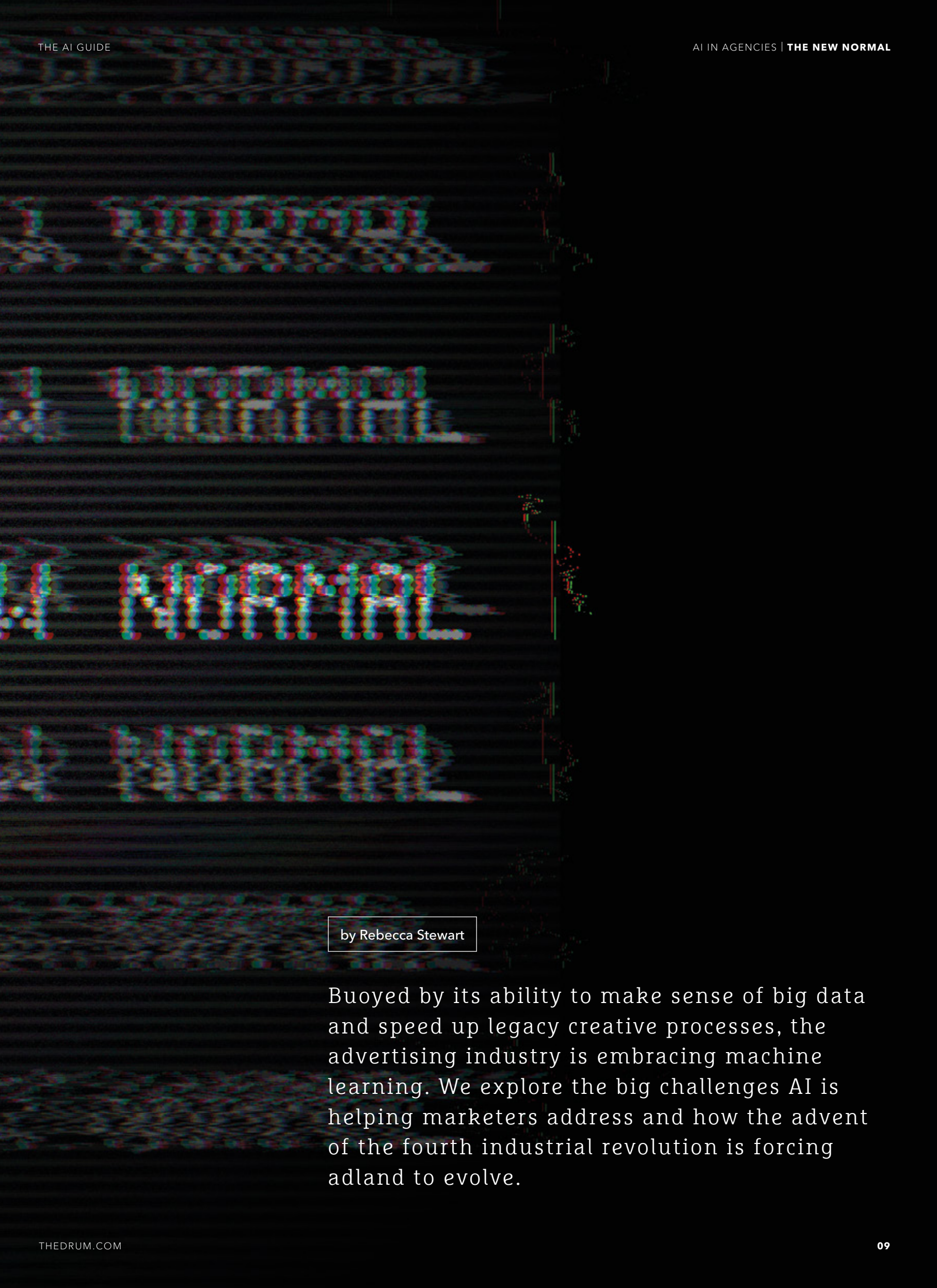
I also like Heartflow and how it leverages deep learning to improve how doctors test and treat coronary heart disease. One of the industries where I believe AI technology will have the biggest impact is in helping doctors not only treat human conditions but come up with new ways of preventative care that can help humans before they even develop health issues.

There there's chatbots, which many of us have heard a lot about but haven't seen

much that knocks our socks off. Linguistics and heuristics are complicated and it will take a tremendous amount of time and effort to train machines to think and speak like human beings. But there has been so much progress just over a few short years leading to better chatbots and the ability for machines to empathize, speak and help problem solve with humans. While chatbots still have some way to go, I'm excited about the possibility of better customer care experiences for companies and individuals that lead to better satisfaction overall.

Additionally, Shutterstock is on the front lines of improving the future of visual search technology using AI. The new tool, Composition Search, enables an entirely new search experience. It allows users to specify one or more keywords, or to search for copy space and arrange them spatially on a canvas to reflect the specific layout of the image they are seeking. This is especially useful for marketers searching for an image with the right copy space, which can be a time-consuming process when scrolling through a collection of 250m images.





by Rebecca Stewart

Buoyed by its ability to make sense of big data and speed up legacy creative processes, the advertising industry is embracing machine learning. We explore the big challenges AI is helping marketers address and how the advent of the fourth industrial revolution is forcing adland to evolve.

Underpinned by automation, blockchain, 5G and IoT, the fourth industrial revolution has arrived. Crucially, though, it is AI that will be the main force driving this wholesale transformation that will reshape both business and society.

To put it in context, intelligent machines are expected to contribute up to \$15.7tn to the global economy in 2030, which is more than the current output of China and India combined. Of this, PwC says \$6.6tn will come from increased productivity and \$9.1tn from consumption side effects.

Marketing has been one of the first industries to embrace the capabilities of this new era, seeing the value in its ability to crunch complex data, target and segment audiences and produce personalized creative.

For digital marketers, the use of AI is set to grow at a compounded annual rate of around 30% globally to reach \$40.09bn by 2025, according to estimates by Markets&Markets. For those in the creative department, Econsultancy and Mediamath say that 42% are already using intelligent machines to design dynamic ads, with a further 27% planning to invest in this type of tech.

But how is AI actually addressing the biggest challenges facing adland? And, as brands and agencies alike bake it deeper into their propositions, what other obstacles will it help them overcome?

Ushering in a new era of digital marketing

Machine learning is now pedestrian on trading desks, with programmatic media buying in its current form being the most mature application of AI for marketers. Even internally, 24% of clients are using AI for programmatic advertising, along with 24% of agencies, according to Adobe.

Not only is this automation streamlining processes, it is also helping them tackle ad fraud and transparency.

Amid the Unilevers and P&Gs of the world re-evaluating the worth of "murky

at best, fraudulent at worst" digital supply chains and the World Federation of Advertisers (WFA) estimating that click fraud will become so rampant it will cost brands \$50bn by 2025, agencies are under more pressure than ever to deliver a crackdown on the nefarious practices while also delivering efficiencies.

AI-powered conversation bots, which are trained to engage with people online to discern their interests, guide interactions and collect information instead of treating illegitimate activity as authentic, are just one of the ways intelligent machines are helping to tackle the problem.


Ruben Schreurs, chief executive at digital media and technology consultancy Digital Decisions, sees this "constantly ongoing Turing test" as one of the most promising applications of AI.

He argues that, before wading deeper into AI waters, the industry needs to define what it wants AI to be. "At the moment, basic algorithms and decision-tree based software get bundled in with neural networks and deep-learning. Much of the conversation around artificial intelligence is the manifestation of 'shiny new toy syndrome', providing little tangible value. But some of it, nascent as it may be, presents the opportunity to forge a digital advertising market that is fit for purpose."

Dayoán Daumont, the consulting partner for customer experience and digital at Ogilvy, agrees that education around AI is the next big challenge for agencies. "If you don't mention AI in your pitch as a solution to a problem, you seem like you're not in step with what's going on," he says.

"The truth is, most clients don't know what it is and they want to see how it could help them.

"There's a misconception around how much work and effort machine learning actually takes to implement. It's quite a bit of work. Just because the algorithms and machines exist, it doesn't mean they're ready to be deployed tomorrow on your



"If you don't mention AI in your pitch as a solution to a problem, you seem like you're not in step with what's going on. The truth is, most clients don't know what it is and they want to see how it could help them."

problem. There's still quite a bit of training that needs to be done - by a human."

Getting creative with AI

What AI should do, argues IBM Watson's chief strategy officer Jeremy Waite, is free creatives, advertisers and planners so they can return to what they're meant to be doing in the first place and get away from dashboards and data, "because everyone has turned into a data analyst or a marketing technologist".

He goes on: "AI helps marketers produce better content, deliver better experiences, love their clients more and have time to work on more compelling creative."

While some agencies are doing this in big, bold ways - like McCann Japan's AI-powered robotic creative director and Toyota's recent AI-directed cinema ad - there are more subtle ways that smart machines can deliver material efficiencies for agencies.

The emergence of 'dynamic creative' is an exciting one for creatives, says Melissa Vodegel Matzen, managing director of creative agency Twelve, because it embellishes creativity, allowing for digital ads to adapt based on any number of data inputs.

"Coca-Cola and a few other multinationals with the budgets and resources to do so are experimenting. Last year, the former experimented with AI to adjust narratives, music and closing credits on a few ads stateside," she reveals.

"These are baby steps. But the potential is becoming clear: strategy and vision will always remain in human hands, but execution will be carried out by machines. For time poor creatives, this is naturally most welcome."

Simon Levitt, global creative technology director at Imagination, agrees the possibilities on this front are wide, but says simple design tasks are also now being performed by machines, saving creatives time.

"Tasks such as resizing images and cropping assets can be done by AI already. The likes of Remove BG, which uses AI technology to detect foreground layers and separate them from the background image, is a good example of this.

"When we can train computers to understand and follow brand guidelines, then even the creative - typically 'human' - jobs in agencies will change forever," he concludes.



DEATH TO CRE

by Jen Faul

Most memorable campaigns are, of course, informed by data. Lots of data. But it takes a human touch to turn it into an actual idea. Right? So when it comes to the creative process, how far can AI go? And how far should it go? The Drum talks to industry experts to explore these questions.

CREATIVES?



In 2015, McCann grabbed headlines with the first artificially intelligent 'creative director'. A couple of years later, it revealed the results of those first briefs fed to the AI (affectionately dubbed AI-CD β) including an ad for Mondelez gum brand Clorets. In an experiment to find out just how effective it was, a human creative also responded to the brief and the public was asked which they preferred (spoiler alert: the human won).

Three years later, in late 2018, another AI creative director hit the headlines. This time, car giant Lexus had rolled out a spot entirely conceived by artificial intelligence. The bizarre ad, which saw a car come to life and 'break free' from its owner, aired across European cinema screens with the disclaimer that no-human was involved in its inception. Was it a great ad? Well it was hardly a Cannes-contender, admitted the brand's marketer, but it did get people talking about the brand.

This all serves to prove that, thus far, the output of 'AI creative directors' has been in the service of stunts and exercises in clever PR, rather than examples of how artificial intelligence can deliver a legitimate creative execution. And chatter around whether a generation of creatives are about to be replaced by machines has been met with sceptically raised eyebrows rather than outright panic.

Man and machine coming together

Wayne Deakin, the executive creative director at ad agency Huge, questions whether we'll ever see a true 'AI CD', believing it could never replace the "high level" creative thinking that exists within agencies. But, he concedes, it will be able to take over some of the tedious tasks that detract from coming up with the next big idea.

"I can't rationalize how I come up with ideas. There's some element of past learning, some element of the environment and data points. But there's a lot of stuff that's emotional, intangible, subjective and unmeasurable," he says.

"At this stage, AI isn't empowered to go into that higher level of creating something from scratch. If I was using AI in the creative process, it would be just that - part of the creative process, a tool to accelerate or facilitate the lower level, task oriented points of creativity. The high level, original thought will come from humans and it is a waste of time using AI for that."

Deakin's view is that, if brands want to use AI "to persuade and generate great creativity that performs", then they need to have a mix of human and machine.

At Rapp, this is how global chief executive Marco Scognamiglio has embraced AI. In the last few months his creative teams have been

working with a new methodology - 'adaptive persuasion'. It means personalization at scale, designing creative that is bespoke to a consumer's personality profile and reflective of the context and environment in which it will appear - all of which is impossible for humans to manage at the speed clients require.

"The AI - which scours all the inspiration sources available and interprets it at speed - automatically informs us how to adapt our creative and copy for each personality type," explains Scognamiglio. "It helps find inspiration quicker, it increases the speed to creative routes and enables all our work to learn from previous successful creative and copy that resonates with each personality profile."

By embracing AI in the creative process, it hasn't made Rapp's creative teams redundant. But it has made them cheaper, faster and better, says Scognamiglio.

"What's more, as it accelerates the employee learning curve, it enables them to focus on higher level skills," he adds.

Evolving job roles

So, what does this mean for the role of creatives? Should we be expecting roles like 'creative scientists' and 'creative engineers' to arise, or will the role of top-level creatives continue much the same as before?

"The main conversation with AI is always about whether it will 'nick our jobs'," says Nicolas Roope, the executive creative director and co-founder at Publicis agency Poke. "And the truth is it probably will, someday. But not for a long time to come."

He ponders: "Will AIs know what to do with a whiff of cultural change? Will they know how to assimilate a resonant response? Will they nail the zeitgeist every time through a reliable, repeatable model, unleashed in an algorithm?"

"Maybe, but not in our lifetimes."

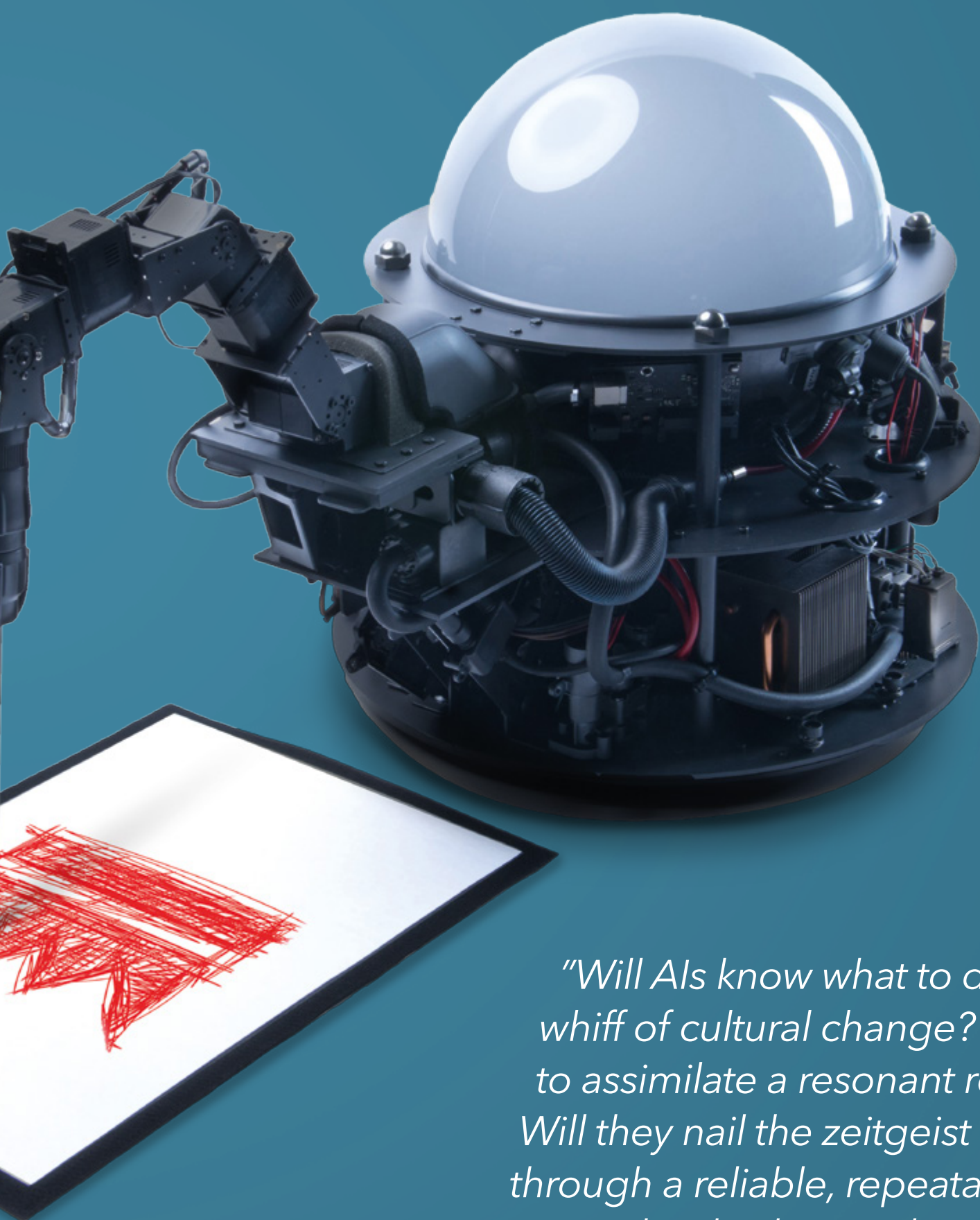
However, as AI frees people up from the more mundane tasks, the next generation of creatives will begin to create more content, design more experiences and create more original products and services. In essence, it's allowing everyone to experiment more.

"Stop worrying about your job security. Start playing with algorithms," urges Roope.

"Get your head into data and what it really is. When creatives get their heads around that, they can suddenly start working with it more fluently."

"Go spend more time with researchers and anyone who gets data and doesn't get fazed by complex numerics. Someone you can bounce concepts off, to start informing your creative sensibilities about how you might approach an idea, where data - the AI - provides the ingredients."





"Will AIs know what to do with a whiff of cultural change? And how to assimilate a resonant response? Will they nail the zeitgeist every time through a reliable, repeatable model, unleashed in an algorithm?"

by Rebecca Stewart

DRIVING _ GROWTH _ WITH _ AI _

THE AI REVOLUTION IS ON THE MARCH, BUT WHAT INDUSTRIES WILL BENEFIT MOST FROM INTELLIGENT MACHINES? WE EXPLORE THE KEY SECTORS SET TO PROSPER FROM THE TECHNOLOGY.

In 1999 The Matrix first landed in cinemas, presenting a dark dystopian image of artificial intelligence. Two decades later and AI still has a way to go to shake off that image. However, 2019 might just be the year AI gets a makeover, as businesses and individuals start to see real evidence of how it can be a force for driving economic growth, rather than replacing humans.

Across 12 of the world's most significant developed markets - including the UK, the US and Japan - Accenture says that AI could double existing annual economic growth rates and increase productivity by 40% or more by 2035. It will also increase economic growth across the board by an average of 1.7% for 16 industries including finance, retail and healthcare.

While there's a long road ahead, early adopters are already starting to see results, using intelligent machines to drive business growth faster than their peers by automating time-consuming processes and using AI in creative ways.

Here, The Drum takes a look at the sectors currently harnessing machine learnings to make a difference to their bottom line.

HEALTHCARE

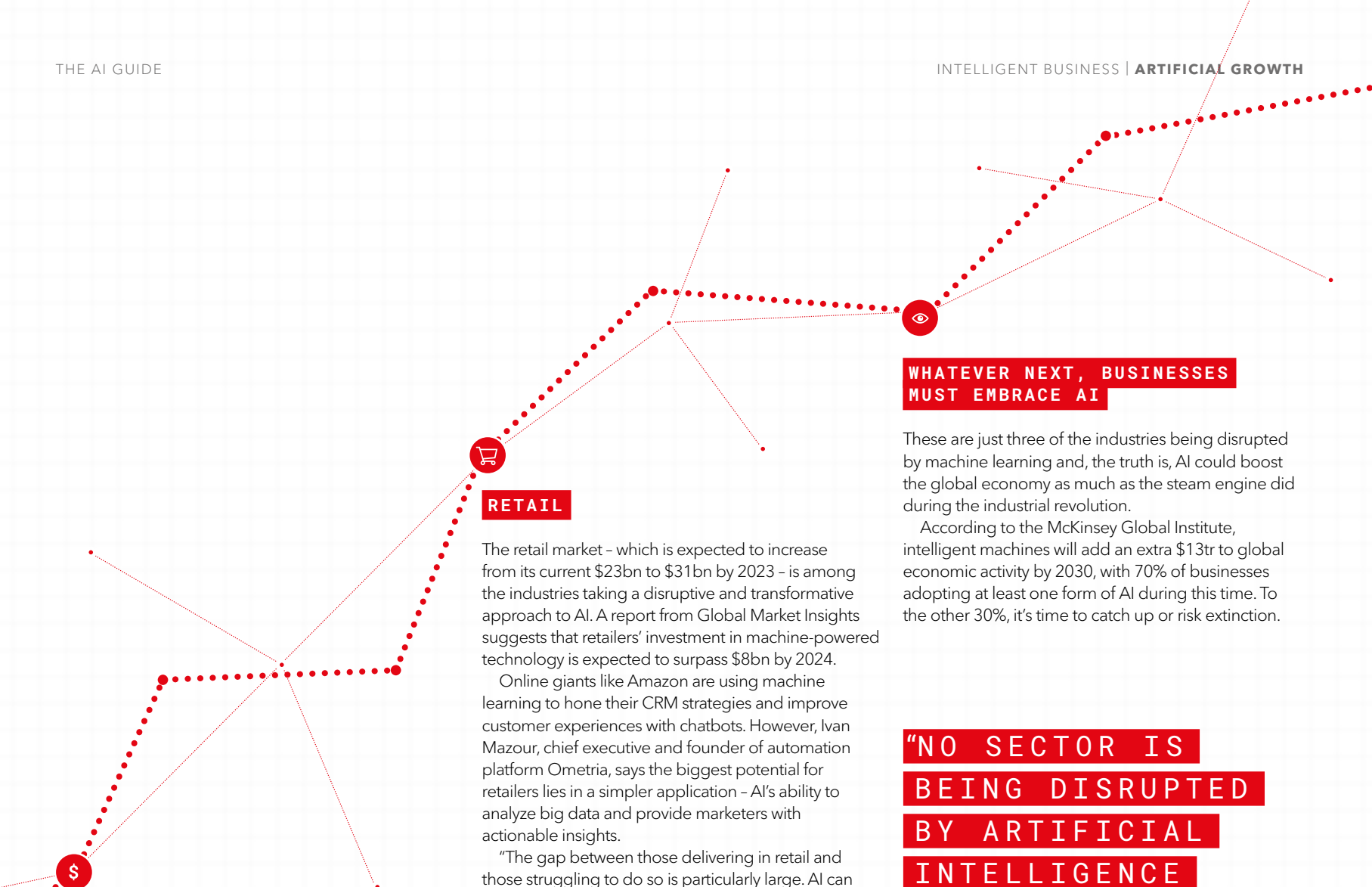
From virtual healthcare assistants and bots, through to early diagnosis and analyzing data to provide better treatment plans, AI's influence over healthcare and its ability to facilitate greater relevancy, accessibility and effectiveness within the space will be monumental.

"No sector is being disrupted by artificial intelligence quite like it," explains Andrew Barraclough, vice-president of design and innovation at pharma giant GSK. "AI-powered apps are already being utilized effectively to encourage healthier behavior. Doctors with access to reams of data-generated insight can better understand patterns, leading to earlier, more accurate diagnoses. Plainly, AI is already saving lives."

It will have a material impact too though; in the US alone Accenture estimates AI applications in health will generate \$150bn in savings annually for the US healthcare economy by 2026.

The market for healthcare AI tools, big data solutions and the Internet of Things (IoT) is also poised for explosive growth, with Tractica forecasting it will surpass \$34bn globally by 2025.

Advancements in surgery will also help healthcare providers save costs and funnel spend elsewhere, with the surgical robotics market, valued at \$3bn in 2014, expected to double to \$6bn by 2020 according to Allied Market Research.

**FINANCE**

"Of all the sectors facing upheaval right now, the biggest is undoubtedly finance," asserts Matt Brown, director of operations at digital agency group Syzygy, who also touts the straightforward ways in which it will bring upticks and efficiencies to the sector.

"This is an industry that for years has relied on its staff to run audits and oversee accounts, but the introduction of AI has meant that machine learning algorithms can do this job on their behalf. As a result of these changes, old school institutions in the finance industry have had to re-establish their business models and reassess who their customer actually is."

Ulster Bank is among those using Salesforce's Einstein AI across its CRM to analyze past consumer behavior to better customize future interactions. The experiment has helped it indemnify trends and patterns that means it can offer more suitable products in future, according to Shane Casey, who oversees digital at the bank's agency Boys+Girls.

"The bank's relationship managers can now generate AI-based analysis that is easily understood and can be used to help their customers," he says.

Insight from the World Economic Forum details how first-movers in the deployment of AI will be able to compound their leads and accelerating early data advantages to the benefit of businesses, influencing companies' strategic approaches to alliances, infrastructure and talent.

When it comes to the material impact on finance, Accenture says those in the financial services sector that embrace AI could improve profitability by an average of 31% by 2035.

RETAIL

The retail market - which is expected to increase from its current \$23bn to \$31bn by 2023 - is among the industries taking a disruptive and transformative approach to AI. A report from Global Market Insights suggests that retailers' investment in machine-powered technology is expected to surpass \$8bn by 2024.

Online giants like Amazon are using machine learning to hone their CRM strategies and improve customer experiences with chatbots. However, Ivan Mazour, chief executive and founder of automation platform Ometria, says the biggest potential for retailers lies in a simpler application - AI's ability to analyze big data and provide marketers with actionable insights.

"The gap between those delivering in retail and those struggling to do so is particularly large. AI can and should be seen as an answer to this issue," he explains.

"Retailers often have the data they need, but struggle to translate that into useful action. Gaining customer insight can look like hours spent in spreadsheets matching up disparate customer data from multiple sources and then attempting to interpret the results, and even longer spent turning this insight into campaigns that deliver the best message to the right person."

AI has the power to fix this, argues Mazour, with its ability to dissect mountains of data and identify trends that would take an experienced data scientist hours to spot.

"It may sound boring in comparison to the robot apocalypse that many associate with AI, but for retail marketers it is exciting that AI has the power to completely eliminate mundane, repetitive tasks from their day-to-day, letting them focus on the stuff that makes it exciting."

The chief executive of Made.com, Philippe Chainieux, tells how the online furniture brand is making inroads into AI in this way: behind the scenes, the brand is working on a feature that will give customers more bespoke recommendations online.

"There's more uses for machine learning in the supply chain too" he says. "What makes sense for us right now is investing in ways that will help customers find their style online."

It's not all about digital though: Howard Pull, strategic development partner at MullenLowe Profero, says AI will redefine physical experiences too. Walmart is already doing this by installing analytics that track customers' moods and audio listening to track service quality. Similarly, Amazon is readying Go, its frictionless store, for a UK launch.

"AI also has potential to overhaul speed and sustainability," Pull adds. "H&M alone had \$4bn of unsold stock in 2018."

WHATEVER NEXT, BUSINESSES MUST EMBRACE AI

These are just three of the industries being disrupted by machine learning and, the truth is, AI could boost the global economy as much as the steam engine did during the industrial revolution.

According to the McKinsey Global Institute, intelligent machines will add an extra \$13tr to global economic activity by 2030, with 70% of businesses adopting at least one form of AI during this time. To the other 30%, it's time to catch up or risk extinction.

"NO SECTOR IS BEING DISRUPTED BY ARTIFICIAL INTELLIGENCE QUITE LIKE HEALTHCARE. AI IS ALREADY SAVING LIVES."

From Instagrammers to showrunners to marketers, we find out how everyone involved in the creative process is increasingly turning to AI to ensure their content drives bottom-line results.

HOW AI IS ELIMINATING GUESSES IN NETWORK

by Julia Nightingale

People are doing whatever they can to avoid advertising. This is especially true for younger demographics. According to research from eMarketer, 43% of UK internet users between the ages of 18 and 24 will use an adblocker this year. It is a figure that has increased rapidly, up from just over 16% in 2014, and it's predicted to keep rising.

Ad-free platforms like Netflix and Amazon Prime are exploding as well, while YouTube offers a handy 'skip ad' option alongside the millions of hours of new content uploaded to its platform by creators each day.

According to Ricky Ray Butler, the chief executive officer of Branded Entertainment Network (BEN), the global 'switch off' from traditional advertising has actually created a new opportunity for brands – to give viewers what they want by getting inside of their content rather than disturbing it.

"Brands are finding success in being part of content itself, through brand integration and influencer marketing for example, rather than interrupting viewers with an ad that can easily be ignored or skipped," he explains.

This requires a different approach for brands. Rather than owning every aspect of creative development for a commercial, many innovative marketers are putting their trust in Hollywood producers or social media content creators to deliver their brands' message.

Increasingly, everyone involved in the creative process – from Instagrammers to showrunners to marketers – is turning to AI and machine learning to help understand how they can best succeed within the current explosion of content, from understanding how their campaigns are performing to predicting what content will best reach their target audience.

A new approach to content creation

Brands and producers are already experimenting with new technology to transform their approach to storytelling, from Lexus developing an AI-led script for an entire commercial to AI being central to navigating the journey through Charlie Brooker's *Black Mirror* *Bandersnatch*.

This has also reached into the influencer marketing space, which is booming, worth \$2bn globally in 2017 and predicted to be worth \$10bn by 2020.

Creators on YouTube and Instagram have long used data to give themselves an advantage in creating content that will engage audiences. What AI brings to the table is a tool that can analyze vast amounts of video content – a creator's entire video history or even the historical videos from all of the creators in their category – to help identify which videos will drive the most views or subscriptions.

"AI is taking the guesswork out of content creation," says Matthew Patrick, an influencer more commonly known as MatPat. "So much of Hollywood and entertainment has been based on gut feelings. What AI can do is take data points from hundreds of thousands of pieces of content and tell us if we are right or wrong about those gut assumptions. It's making us smarter about the

content we are creating so that we can focus on the stuff that really matters – making quality videos."

A new approach to audience engagement

Big data and AI are also becoming more and more useful in the creative decision-making process for Hollywood executives – from providing insight on what content to green light, what to buy, and analyzing whether producers are meeting diversity objectives in front of and behind the camera.

According to Lori McCreary, president emeritus of the Producers Guild of America, understanding how to use AI to position their projects with distributors gives producers a clear advantage and can help create the perfect environment for content to resonate with audiences.

"Today, we're able to use big data and AI to identify gaps in the entertainment landscape and give us insight into what stories might engage audiences most. AI can also be used to provide producers with concrete, measurable data to help inform us as to how well we are responding to our inclusion initiatives."

A new approach to measurement

Ever more sophisticated tools and tactics are now available to marketers to show what content is most likely to drive bottom-line results.

Deep learning has the ability to analyze unstructured data that exists within the content itself and can go far beyond the traditional measurement of 'what worked' to provide insight on 'why it worked' and even make predictions about what will work in the future. These tools can provide insight on the most effective activity and integrations possible, while analyzing millions or even billions of terabytes of data in seconds.

"AI is bringing something new: the ability to predict what percentage of people will take action or make a purchase based on what they've seen. This is going to give creators new insights when making their own content so that they can optimize their videos to gain more subscribers and higher engagement," says Butler.

Particularly in the influencer marketing space, AI is proven to be a more effective approach to analyzing the hundreds of thousands of partners available to brands.

"Millions of dollars have already been shifting into influencer marketing and brand integration as brands seek to reach audiences who are avoiding traditional advertisements at all costs," says Butler. But, he adds, "lack of sophisticated measurement has been holding back a true tidal change."

With better forms of measurement, brands will be able to eliminate the guess work around the best people to work with, help tackle influencer fraud and ensure campaigns are having the right impact with the right people.

"It's an 'and' not an 'or,'" Butler says of the debate between human creativity and machine intelligence. "It's contributing to the quality of work for the creators and the experience for the viewers. It's the combination of the human element with AI that always works best."

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The evolution of AI in entertainment marketing

We're an amazing global group of consumers. According to a study by Nielsen, Americans spend nearly 12 hours a day consuming media. Today, content can be seen anywhere, at any time, on any device, nearly worldwide. Platforms like Amazon Prime Video and Netflix have exceeded 100 million users in the US alone. Then there's YouTube, Instagram, and platforms like Twitch, where millions of hours of content are uploaded daily on a global scale.

When data marries entertainment

With all of this content comes a massive amount of data. The unstructured audio and video that is contained in film, TV or influencer videos can range from the expressions of the people on screen to objects in a scene. The availability of this data is transforming entertainment marketing today, allowing marketers to predict the outcomes of brand integration campaigns before they even begin.

Merging entertainment with data is not a new concept. Both content creators and marketers have always aspired to understand what will resonate with audiences and keep them engaged. Focus groups and screen tests have been happening in Hollywood for decades. The field of entertainment marketing is no different. As more marketers look to get inside content, there's a strong desire to understand how to create authentic integrations that will move a story or influencer video forward - and products off the shelves.

Over the last two years, networks, platforms, brands, content creators and influencers have all utilized AI to refine their marketing strategies. For example, AI has been tasked to help combat influencer fraud, which remains a growing concern for the industry as fake followers abound. AI's uses don't stop there. Netflix boldly removed people-based recommendations from its platform late last year and shifted solely towards AI-based ones. Those are significant milestones for marketers actively leveraging AI, but they are just the tip of the iceberg in terms of how it can be leveraged in the future.

The promise of deep learning

The real promise of AI lies within deep learning algorithms that have the ability to think like a human but scale like a machine. Deep learning can digest, assess and contextualize unstructured



“The real promise of AI lies within deep learning algorithms that have the ability to think like a human but scale like a machine.”

data quickly to derive actionable insights. Through deep learning, AI can analyze millions of pieces of content in the time it would take humans to analyze a dozen, and at the same time be able to find patterns and insights that most humans would miss. This brings benefits to both content creators and marketers.

Creators will be able to use insights from neural networks - the algorithms that make deep learning possible - to understand which settings, storylines, characters or topics engage audiences most. Marketers will be able to use deep learning's predictive capabilities to gain greater insight into the creators or shows that will deliver the greatest ROI. Brands are already benefiting from the application of deep learning to influencer marketing campaigns, realizing tangible benefits such as increases in click-through-rates of over 170%, higher engagement rates within their campaigns or even 10x increases in subscription conversion efficiency.

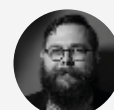
Even more, customized deep learning

algorithms are being trained to predict the specific outcomes a brand is most interested in achieving. Gone are the days of blindly hoping for good results or being satisfied with a vanity placement. Marketers are now using AI to predict what will work best for their specific products, and to more accurately measure the value of influencer marketing and brand integration relative to other forms of marketing.

Ultimately, the objective of brands and creators for entertainment marketing is the same as it always has been - predicting which programming will keep viewers glued to the screen and identifying the right integration opportunities that will drive sales of their products. To make better sense of the content at their fingertips, marketers are increasingly turning to deep learning algorithms. It is the only way they'll be able to accomplish every marketer's dream: predicting whether a campaign will be successful before it starts, instead of understanding its impact after the campaign has ended.

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